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EXAMINER

GOFF II, JOHN L

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 05/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/771,887

Applicant(s)

HESCH, ROLF

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 March 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 8-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 11-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/150,707.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to Amendment A received on 3/26/03. The previous objections to the specification and 35 U.S.C. 112 rejections have been overcome.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Applicant's election with traverse of Species I-A, claims 1-7 and 11-15, in Paper No. 5 is acknowledged. The traversal is on the ground(s) that claim 8 is dependent on claim 1, and claim 1 is a generic claim. This is not found persuasive because while claim 1 is generic the restriction was made between species I-A and species I-B wherein species I-A is drawn to a process for producing a composite element wherein the thin sectioned wall part is bonded to the foamed element including the hard shells while in the mold during foaming, i.e. see claims 5 and 6, and species I-B is drawn to a process for producing a composite element wherein the thin sectioned wall part is adhesively bonded to the foamed element including hard shells by laminating after foaming, i.e. claims 8-10. Applicant elected species I-A, and since applicant has received an action on the merits for the species I-A, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, species I-B, claims 8-10, are withdrawn from consideration as being directed to a non-elected invention.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

4. Claims 1, 2, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. (U.S. Patent 4,298,556) in view of Spehner (U.S. Patent 5,232,779).

Rutsch et al. are directed to a method of molding fiber reinforced foam composites for use as auto-body parts, seats, helmets, luggage, etc. (Column 1, lines 8-11). Rutsch et al. teach an open mold containing an ABS foil (thin-section wall part) and fiber reinforcing elements (Figure 1 and Column 3, lines 1-4). Rutsch et al. teach a method comprising filling the mold with a reactive foam mixture (foaming agent), closing the mold, and foaming the mixture to encapsulate the fiber reinforcing elements (Figures 1-3 and Column 1, lines 12-22 and Column 3, lines 1-10 and Column 4, lines 8-25). It is noted Rutsch et al. do not specifically recite a set time delay. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Rutsch et al. to use a reactive foam mixture with a set time delay to ensure foaming does not begin until after the open mold is filled with reactive foam mixture, i.e. the reactive foam mixture is distributed within the mold and closed prior to foaming.

Regarding claims 1, 13, and 14, Rutsch et al. do not specifically recite using renewable raw materials as the reinforcing elements. However, one of ordinary skill in the art at the time the invention was made would have readily appreciated using as the reinforcing elements taught by Rutsch et al. materials such as flax, hemp, jute, grass, etc. as it was well known in the art to use these materials as fiber reinforcing elements in a molding process as shown for example by Spehner to produce molded articles having excellent mechanical properties such as tensile strength, flexural strength, etc.

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Spehner is directed to fiber reinforcement elements based on plant fibers useful as fiber reinforcement material in molded parts. Spehner teaches the fiber reinforcement elements are made of renewable raw materials such as flax, hemp, jute, grass, etc. Spehner teaches the fiber reinforcement materials are used to produce molded articles having excellent mechanical properties such as tensile strength, flexural strength, etc. (Column 1, lines 6-10, 16, 31-34, and 58-65 and Column 5, lines 3-8 and 24-26).

5. Claims 3, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. and Spehner as applied above in paragraph 4, and further in view of Preston. (U.S. Patent 4,714,575)

Regarding claim 3, Rutsch et al. and Spehner teach all of the limitations in the claim as applied above except for a teaching on a set time delay of less than five seconds. Preston is directed to a method for manufacturing RIM composites. Preston teaches an open mold containing a vinyl skin layer (thin-section wall part) and a glass mat (reinforcing elements) (Column 1, lines 29-31 and Column 4, lines 13-18). Preston teaches a method comprising closing the mold, filling the mold with a polyurethane foam mixture (foaming agent), and foaming the mixture to penetrate and encapsulate the glass fibers (Figures 2 and 3 and Column 4, lines 20-27 and 32-35). Preston further teaches that the time for filling the mold is less than five seconds (Column 3, lines 28-34). One of ordinary skill in the art at the time the invention was made would have readily appreciated using in Rutsch et al. as modified by Spehner a foam mixture with a time delay of five seconds or less as suggested by Preston to ensure foaming does not begin prior to completely distributing the mixture within the mold.

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Regarding claims 11 and 12, Rutsch et al. and Spehner teach all of the limitations in the claims as applied above except for a specific teaching on using injection cannulas/nozzles for introducing the reactive foam mixture in the mold. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use injection cannulas/nozzles for introducing the reactive foam mixture into the mold taught by Rutsch et al. as modified by Spehner as injection cannulas/nozzles are well known means for introducing a reactive foam mixture into a mold as shown for example by Preston (See Figure 2 of Preston).

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. and Spehner as applied in above in paragraph 4, and further in view of Miyake et al. (U.S. Patent 5,354,397).

Rutsch et al. and Spehner teach all of the limitations in claim 4 as applied above except for a teaching on priming the ABS foil (thin-section wall part) prior to applying the foam mixture. However, it is well known in the art to prime a substrate such as an ABS foil on the foam application side to improve adhesion between the substrate and foam as shown by Miyake et al. One of ordinary skill in the art at the time the invention was made reading Rutsch et al. and Spehner in view of Miyake et al. would have readily appreciated incorporating into the method taught by Rutsch et al. as modified by Spehner a priming step as suggested by Miyake et al. to improve adhesion between the foil and the foam.

Miyake et al. are directed to a molding comprising a soft touch layer and a foamed molding resin (Column 2, lines 54-59 and Column 7, lines 49-53 and Column 8, lines 4-7). Miyake et al. teach priming the soft touch layer to enhance adhesion (Column 7, lines 45-48).

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7. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. and Spehner as applied in above in paragraph 4, and further in view of the admitted prior art (Specification pages 1-2).

Rutsch et al. and Spehner teach all of the limitations in claims 5 and 6 as applied above except for a teaching on providing the ABS foil (thin-section wall part) with an insulating layer (hard shell) and transverse cross pieces. However, it is known in the art to use insulating layers and transverse cross-pieces as shown by the admitted prior art. The admitted prior art is directed to known structural composite elements. The admitted prior art teaches that transverse cross pieces are known as a means for side impact protection and insulating layers are known for heat insulation (Specification pages 1 and 2).

Regarding claim 5, one of ordinary skill in the art at the time the invention was made would have readily appreciated providing the ABS foil taught by Rutsch et al. as modified by Spehner with an insulating layer (hard shell) during foaming as suggested by the admitted prior art to provide the molded part with heat insulation.

Regarding claim 6, one of ordinary skill in the art at the time the invention was made would have readily appreciated incorporating into Rutsch et al. as modified by Spehner transverse cross pieces as suggested by the admitted prior art to provide the molded part with side impact protection.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rutsch et al. and Spehner as applied in above in paragraph 4, and further in view of WO 94/09982.

Rutsch et al. and Spehner teach all of the limitations in claim 7 as applied above except for a teaching on using recycled foam cores. However, it is well known in the art to use recycled

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foam cores to reduce cost as shown by WO 94/09982. One of ordinary skill in the art at the time the invention was made would have readily appreciated incorporating into the method taught by Rutsch et al. as modified by Spehner recycled foam cores as suggested by WO 94/09982 to reduce the cost of producing the foamed composites.

WO 94/09982 is directed to a plastic foam molded body. WO 94/09982 teaches using an inner core of recycled foam encapsulated within an outer covering of fresh foam (See abstract).

Response to Arguments


9. Applicant's arguments with respect to claims 1-7 and 11-15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **703-305-7481**. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700

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John L. Goff

John L. Goff
May 21, 2003

Michael W. Ball
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